

FIG. 1

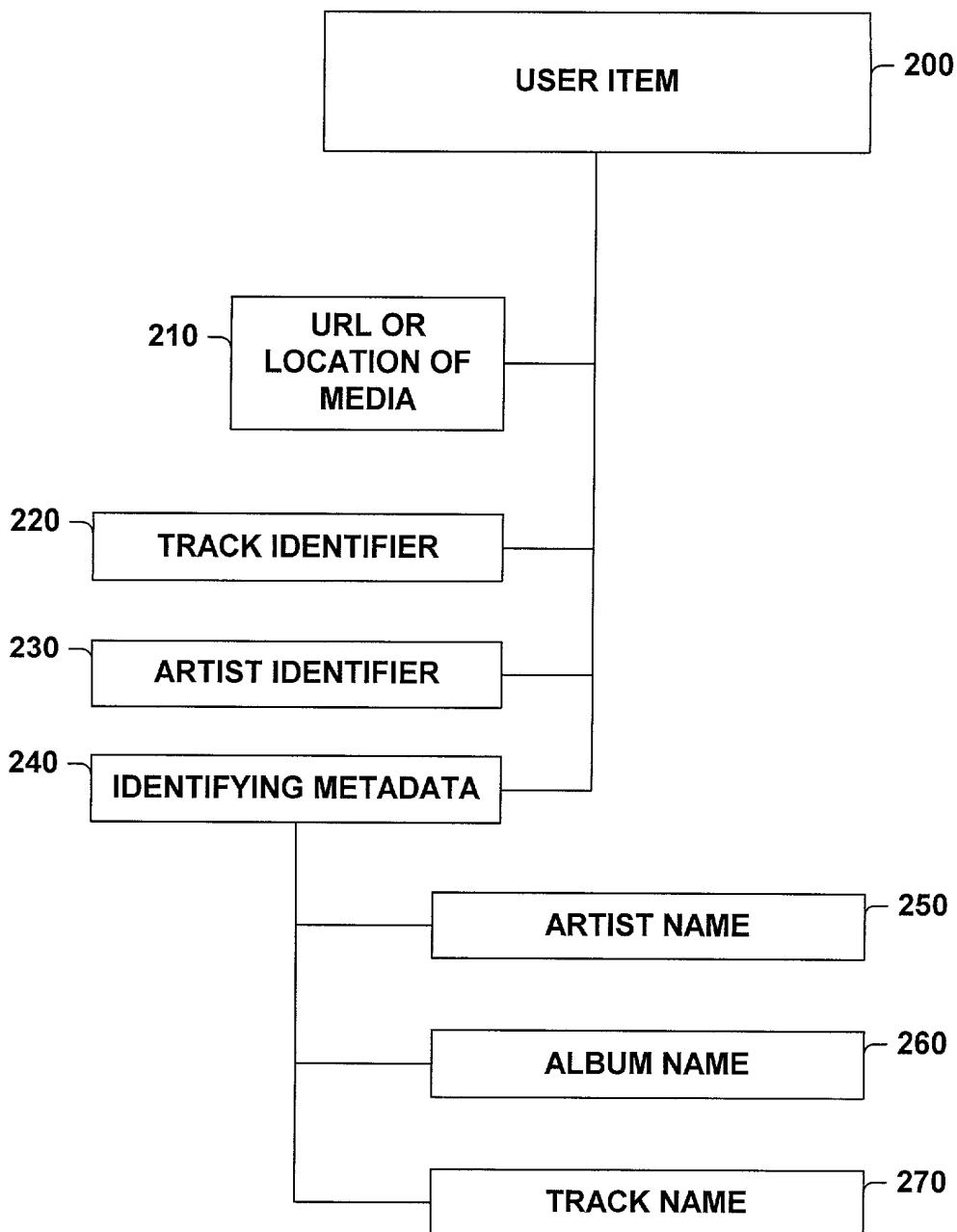
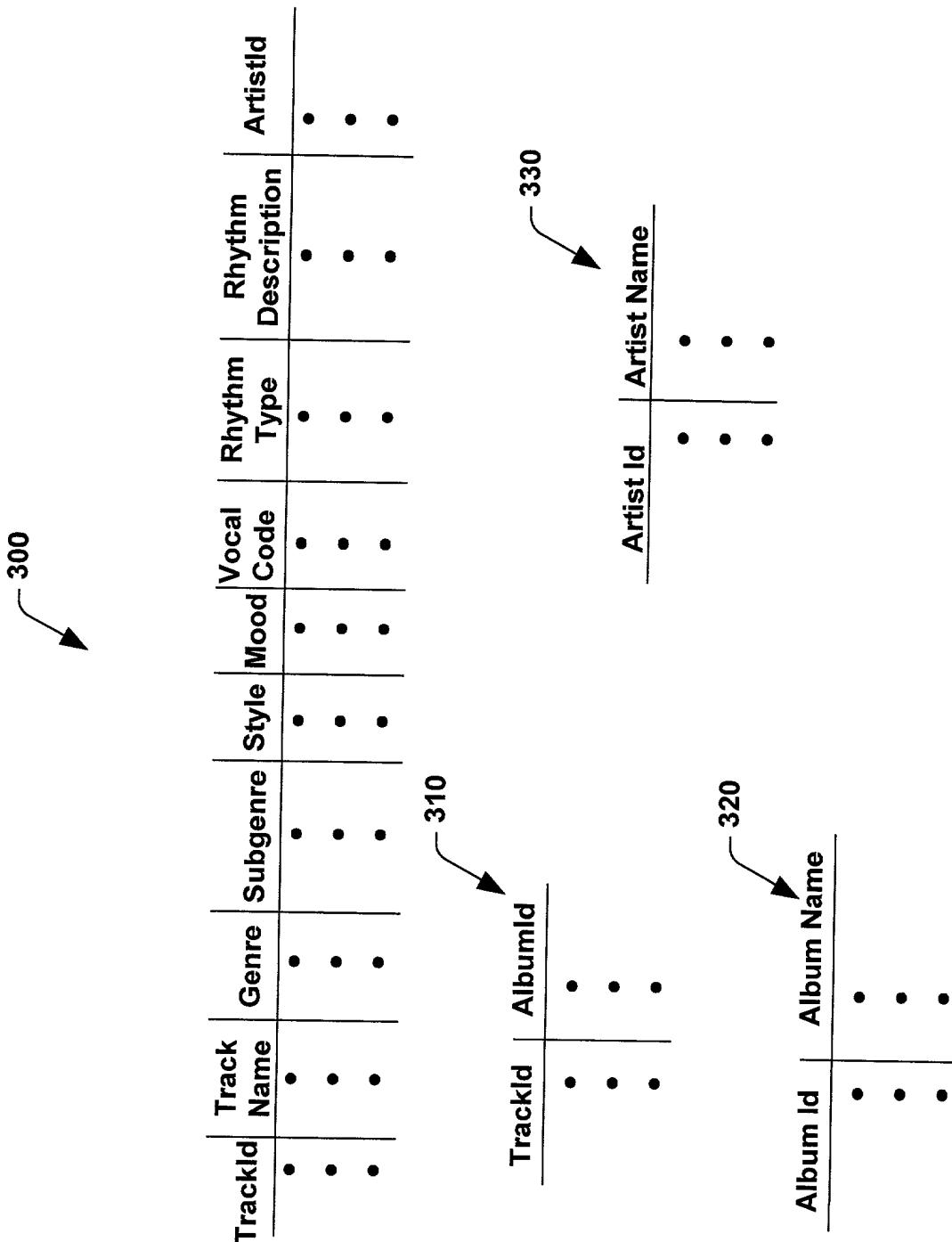


FIG. 2

FIG. 3



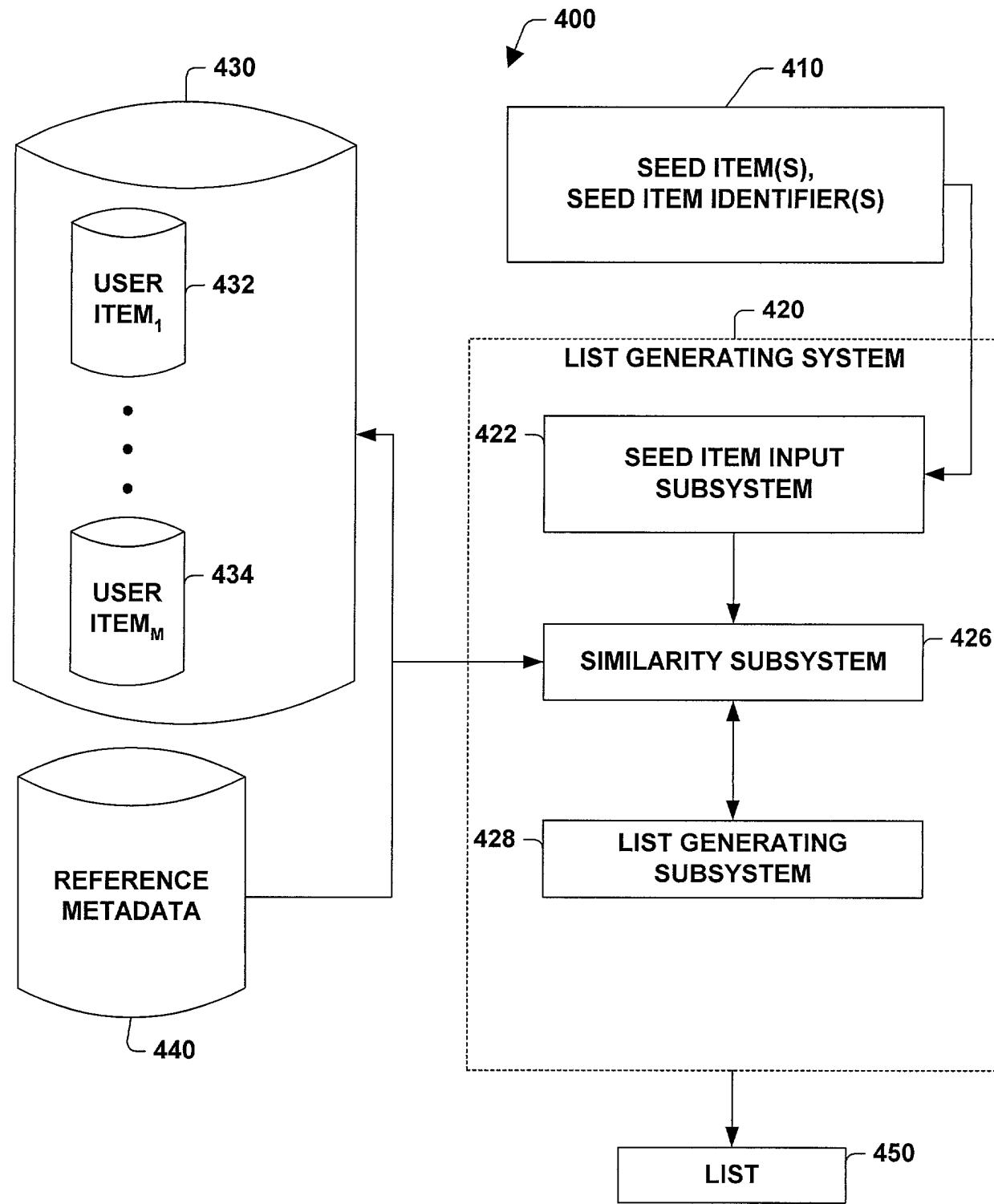


FIG. 4

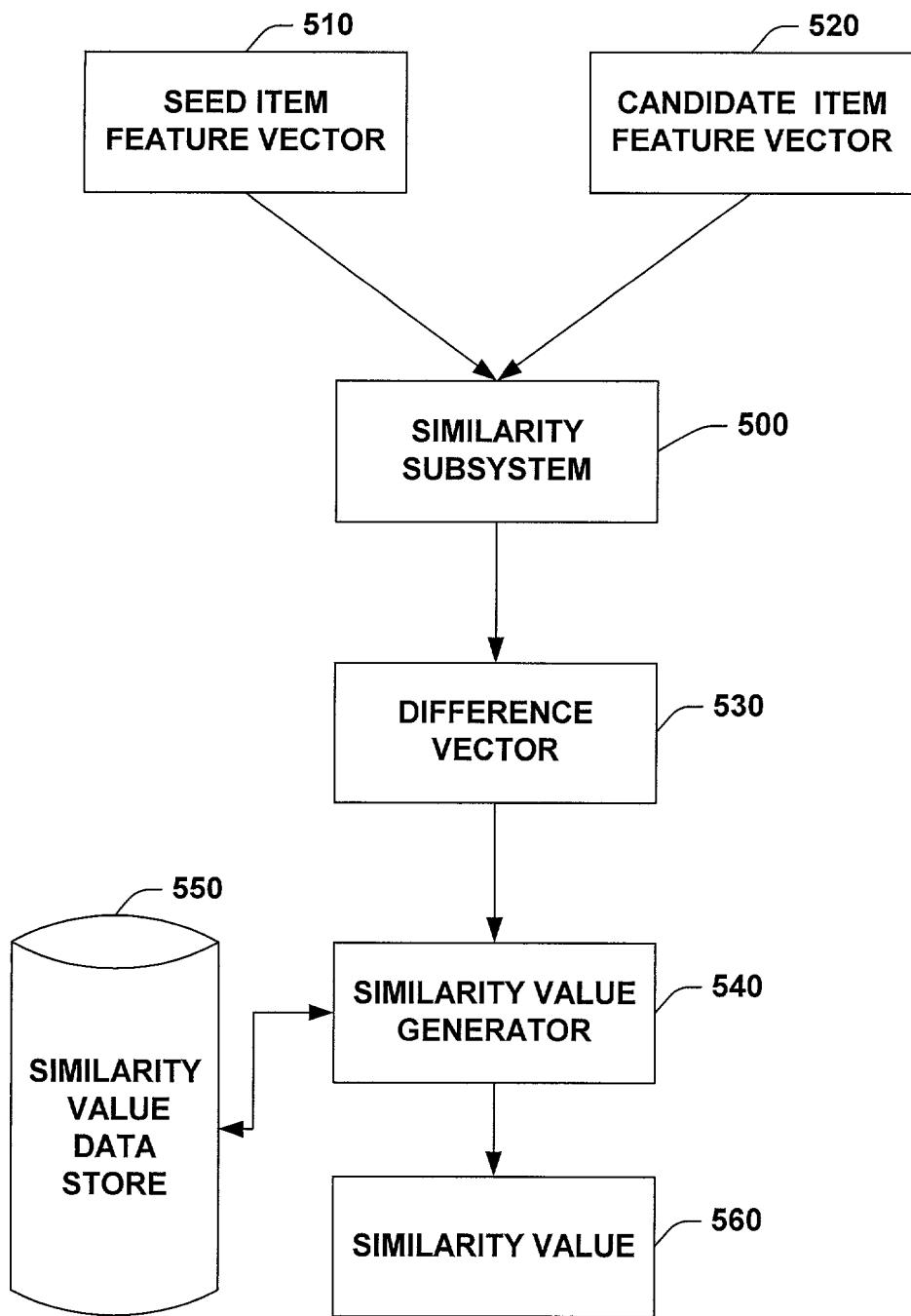


FIG. 5

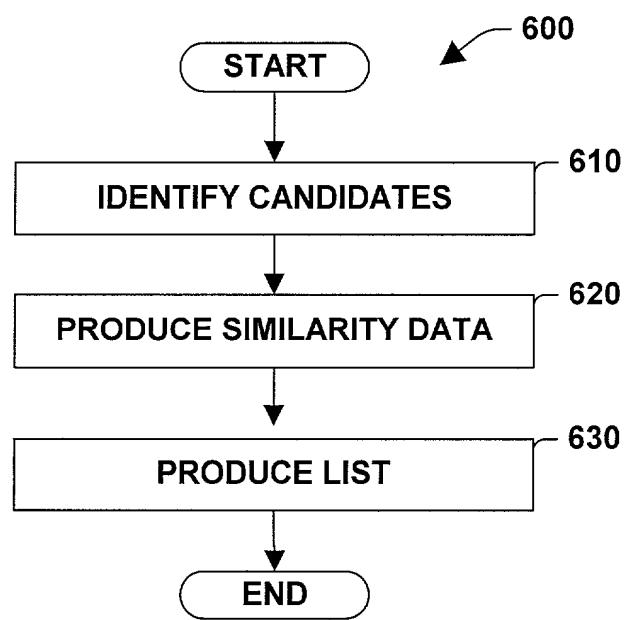


FIG. 6

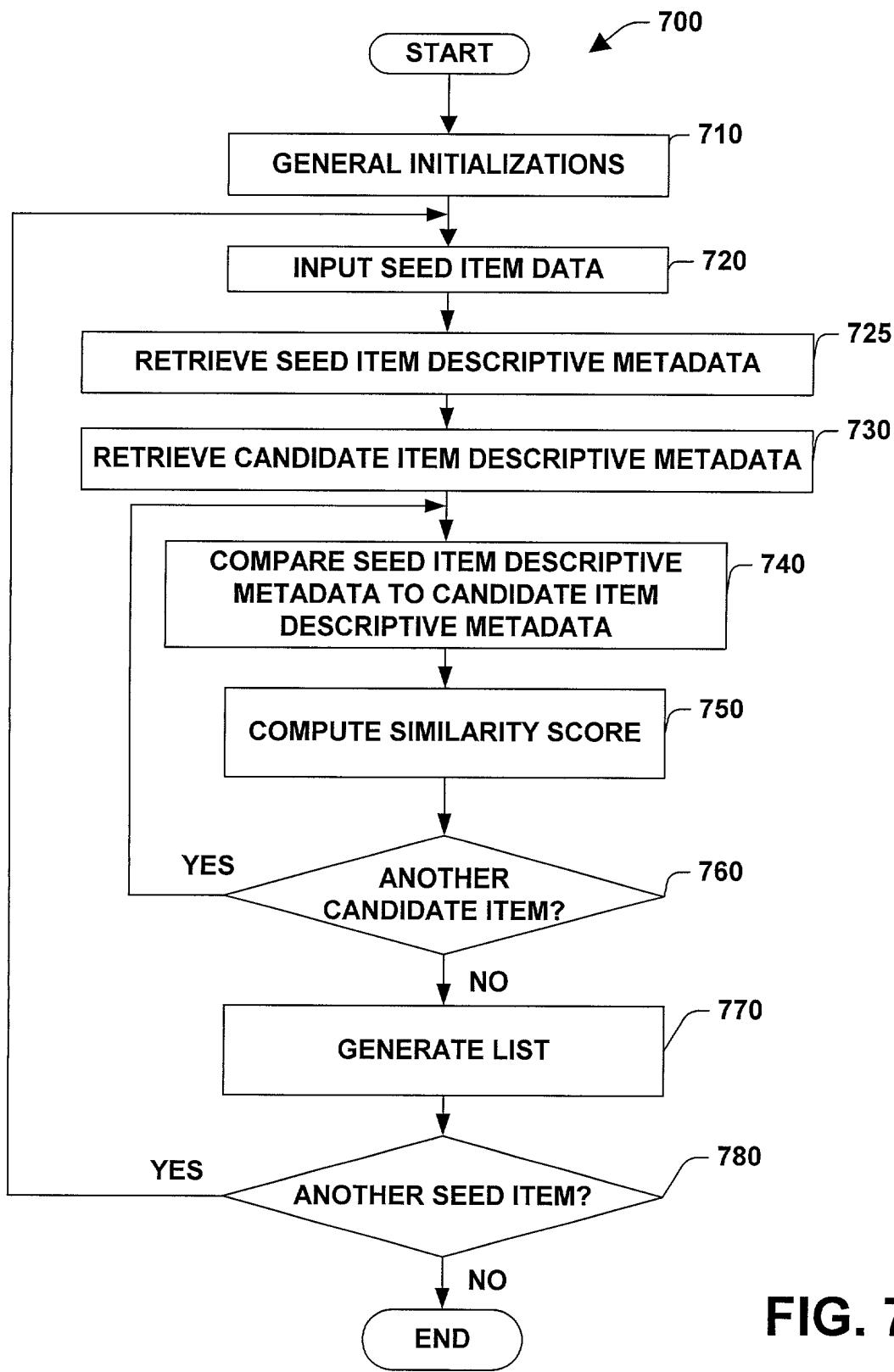


FIG. 7

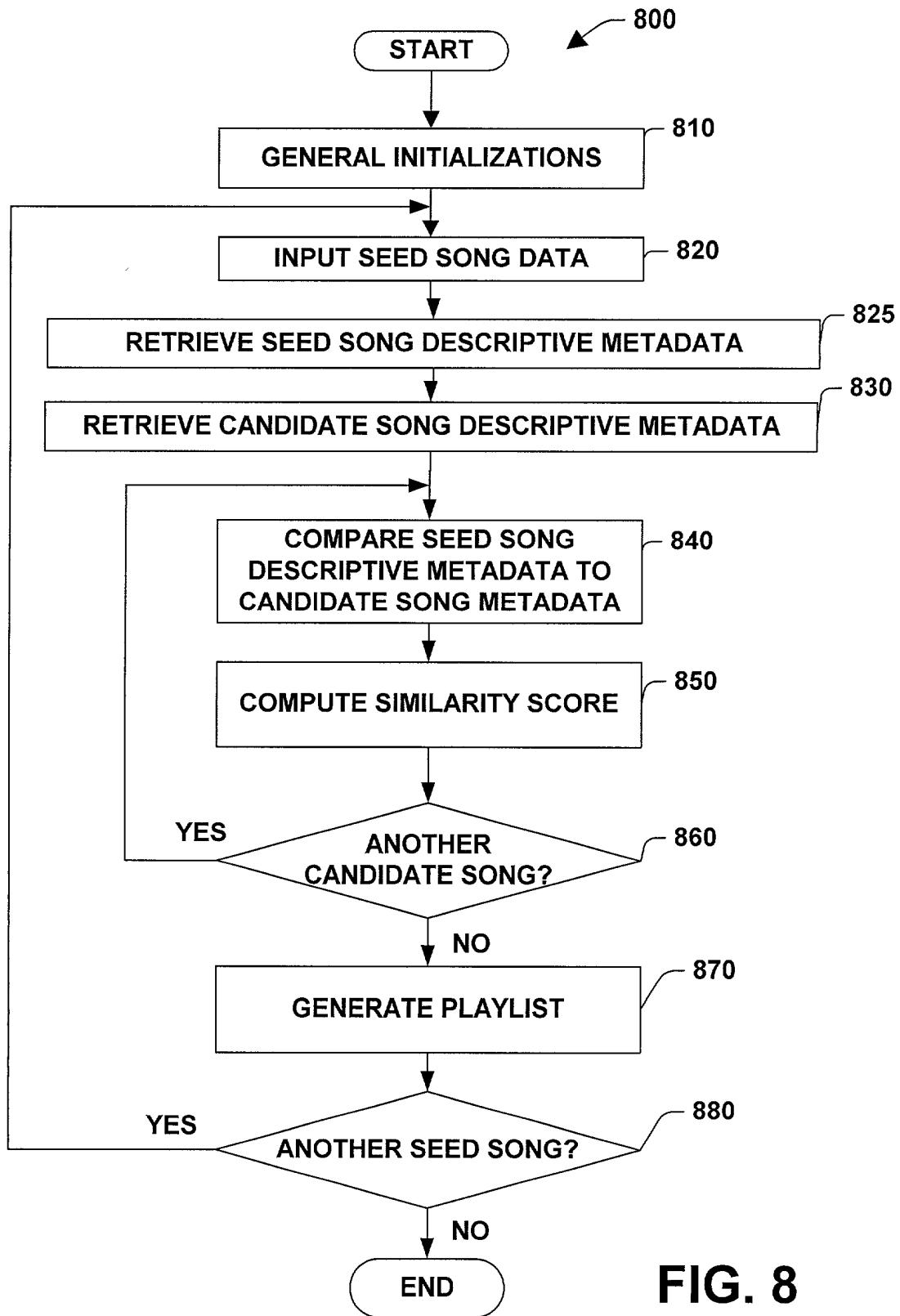


FIG. 8

900

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FOR EACH REFERENCE TRACK
  IF ARTIST ID NOT SAME AS PREVIOUS REFERENCE TRACK THEN
    CLEAR USER SONG ARTIST VOTES
    SPLIT ARTIST NAME INTO WORDS,CANONICALIZE WORDS

    FOR EACH ARTIST WORD
      INCREMENT USER SONG ARTIST VOTE FOR USER SONG
      ARTIST NAMES THAT CONTAIN ARTIST WORD

    END FOR
    FOR EACH USER THAT RECEIVED AT LEAST ONE ARTIST VOTE
      COMPUTE ARTIST MATCHING SCORE
      IF ARTIST MATCHING SCORE IS ABOVE THRESHOLD
      AND ARTIST MATCHING SCORE BETTER THAN
      PREVIOUS ARTIST MATCHING SCORE THEN
        ARTIST ID OF USER SONG =
          ARTIST ID OF REFERENCE TRACK
      ENDIF
    END FOR
  END IF

  SELECT USER SONGS WHOSE TRACK NAME MATCHES FIRST N
  CHARACTERS OF REFERENCE TRACK NAME

  IF NO USER SONGS MATCH THEN, RETURN, ENDIF

  SPLIT REFERENCE TRACK NAME INTO WORDS, CANONICALIZE WORDS
  CLEAR USER SONG TRACK VOTES
  FOR EACH TRACK WORD
    INCREMENT USER SONG TRACK VOTE FOR USER SONG TRACK
    NAMES THAT CONTAIN TRACK WORD

  END FOR
  FOR EACH USER SONG THAT RECEIVED AT LEAST ONE ARTIST VOTE
    ADD USER SONG ARTIST VOTE TO USER SONG TRACK VOTE
  END FOR
  FOR EACH USER SONG THAT HAS AT LEAST ONE TRACK VOTE
    COMPUTE TRACK MATCHING SCORE
    IF TRACK MATCHING SCORE IS ABOVE THRESHOLD AND TRACK
    MATCHING SCORE IS BETTER THAN PREVIOUS TRACK
    MATCHING SCORE
      USER SONG TRACK ID = TRACK ID OF REFERENCE TRACK
    END IF
  END FOR
END FOR

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FIG. 9

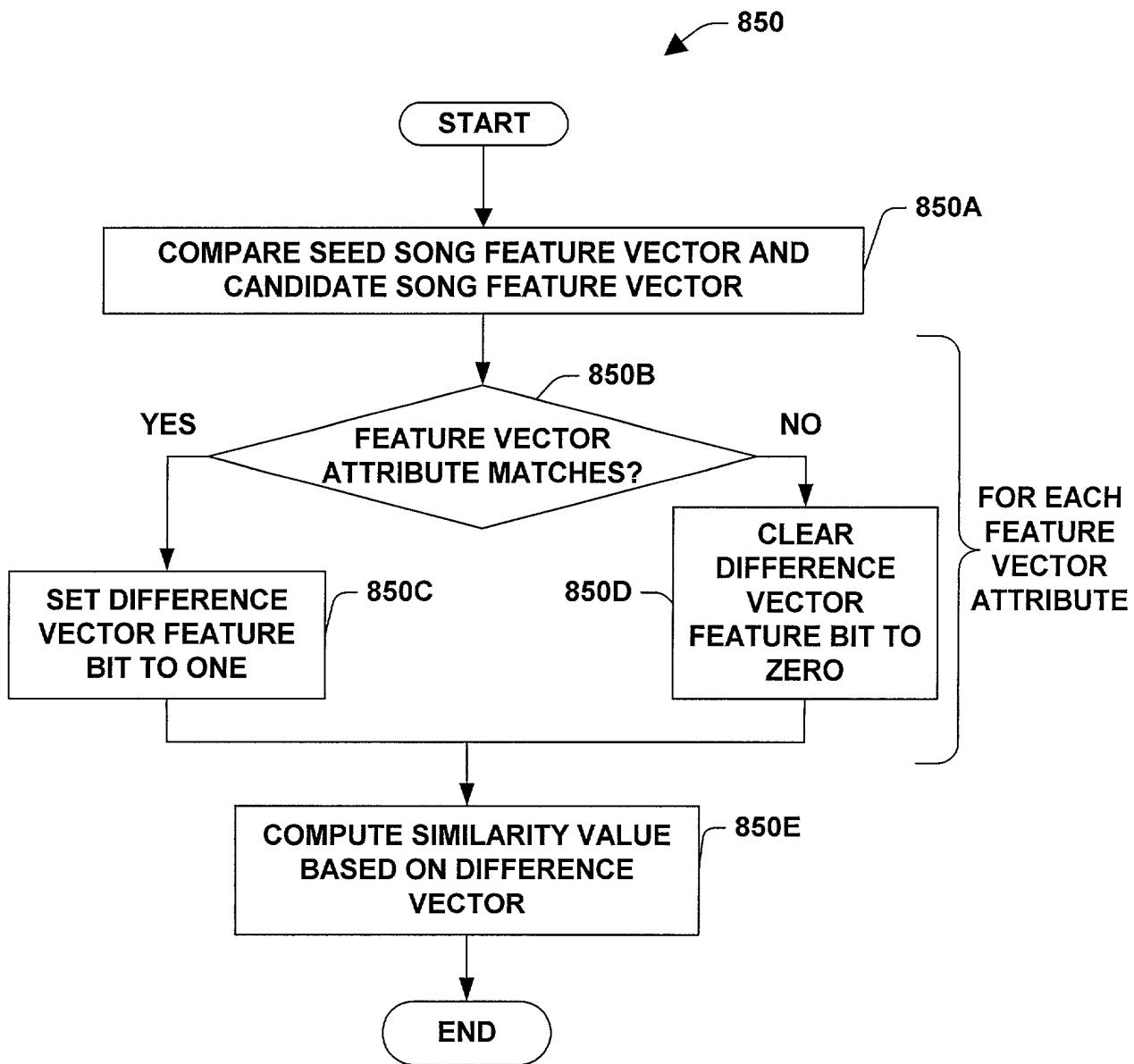
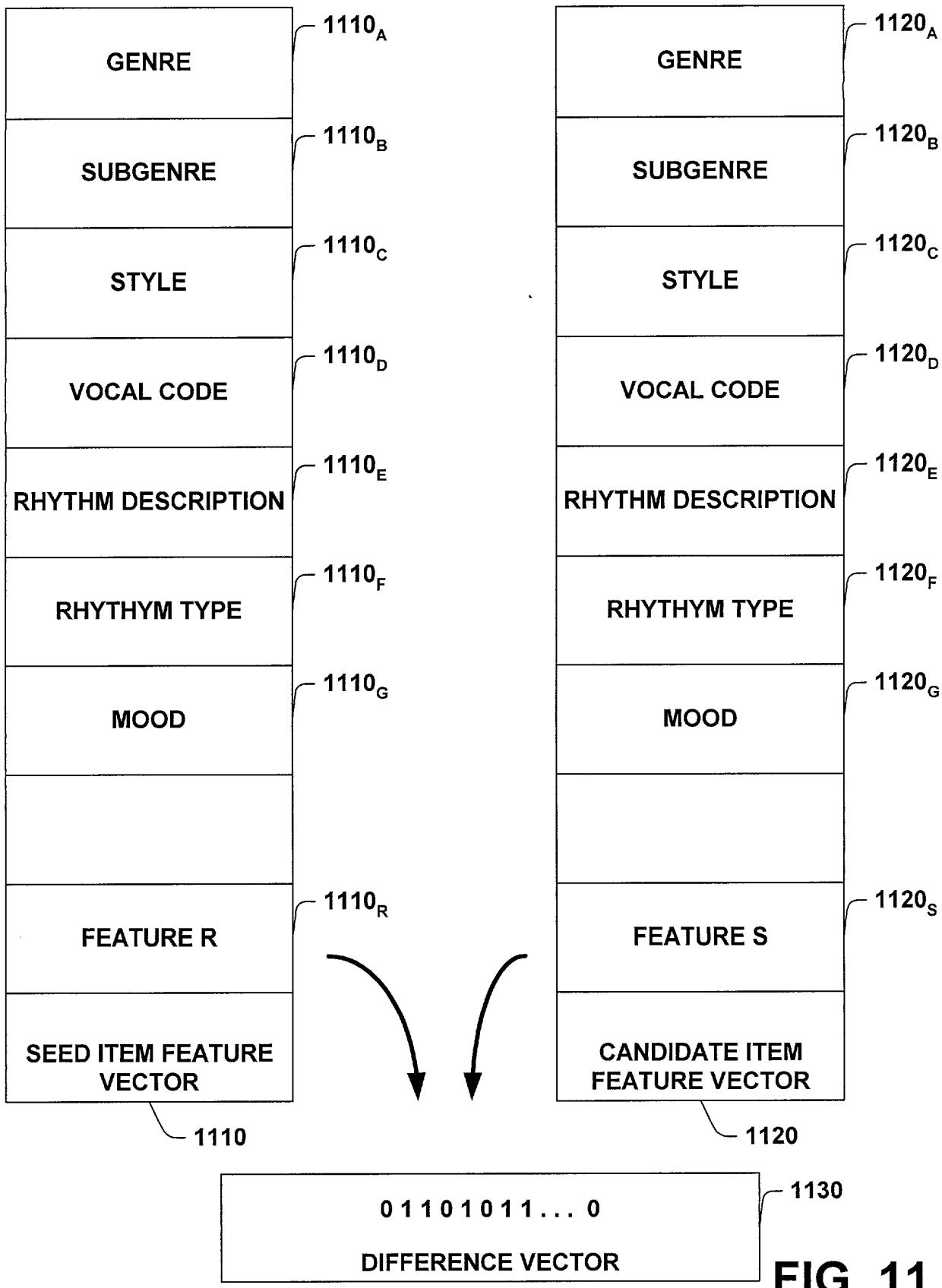


FIG. 10

**FIG. 11**

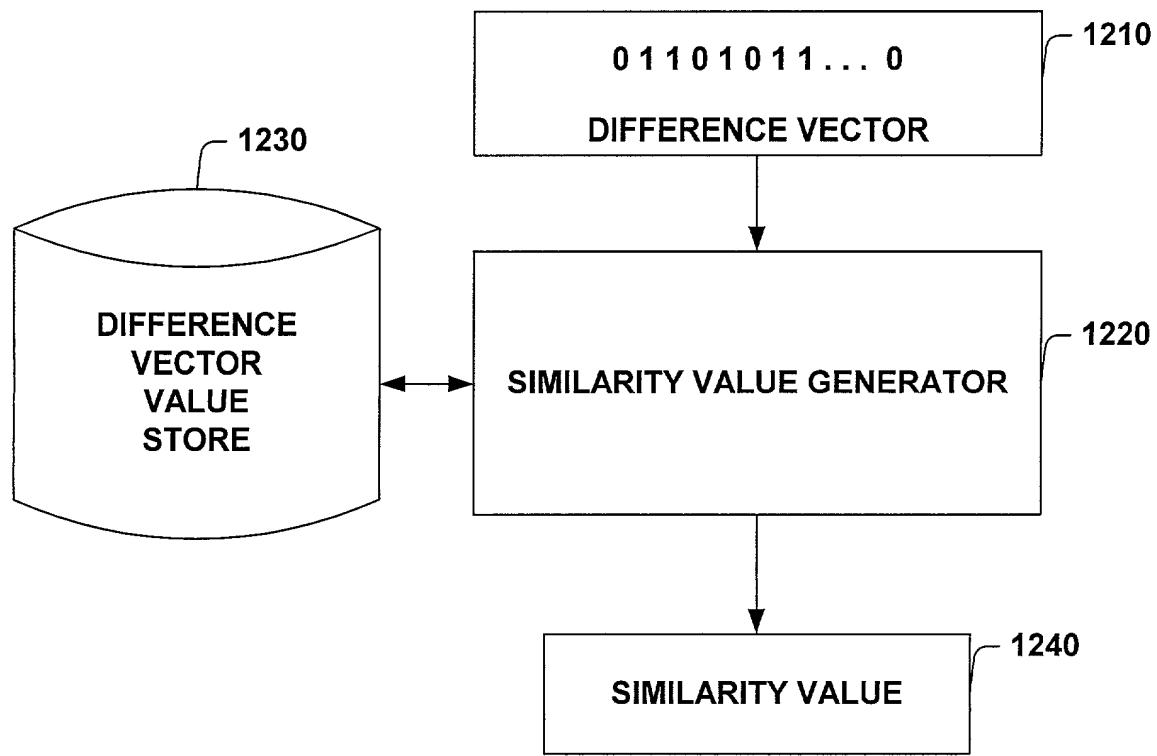


FIG. 12

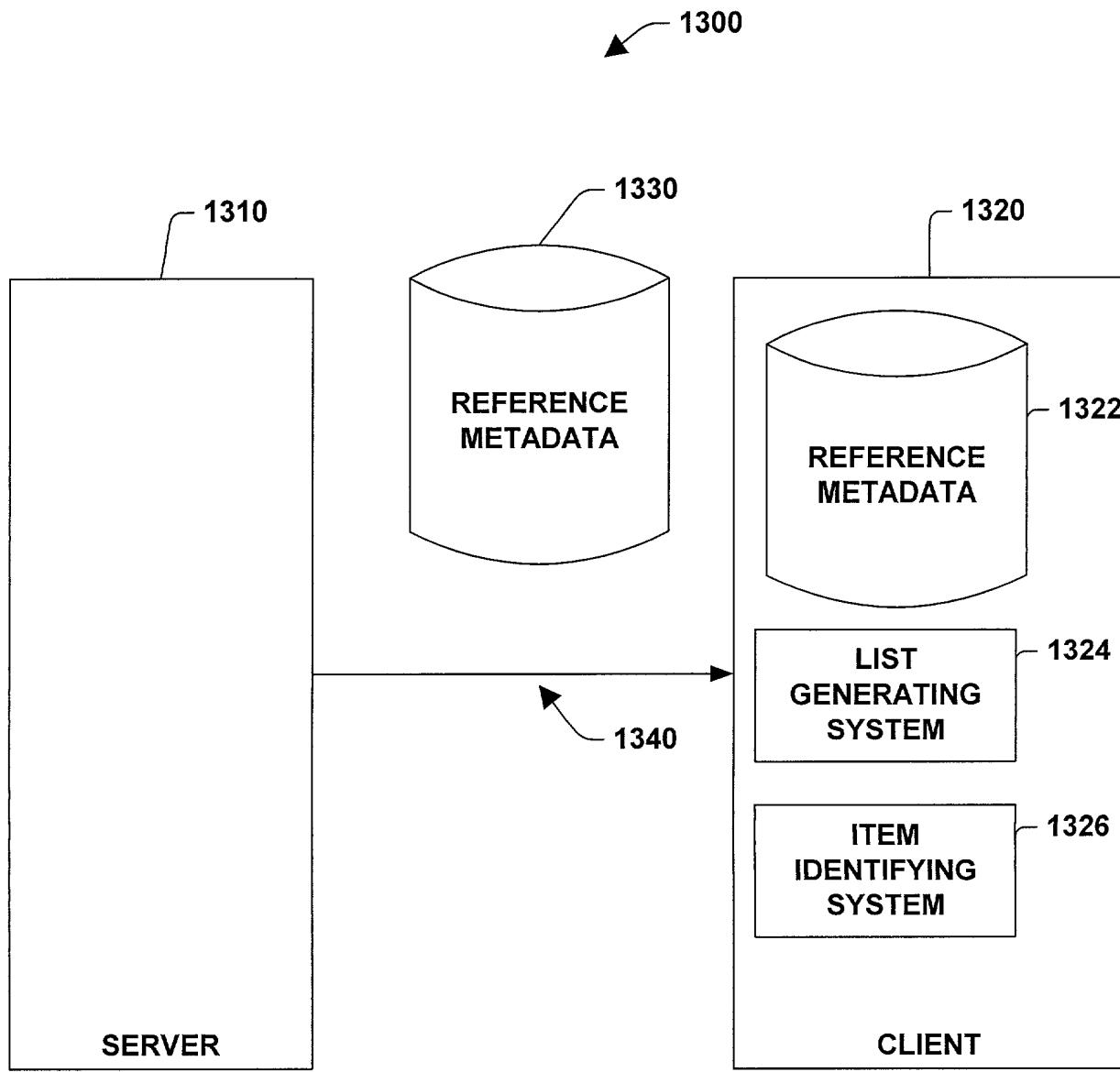


FIG. 13

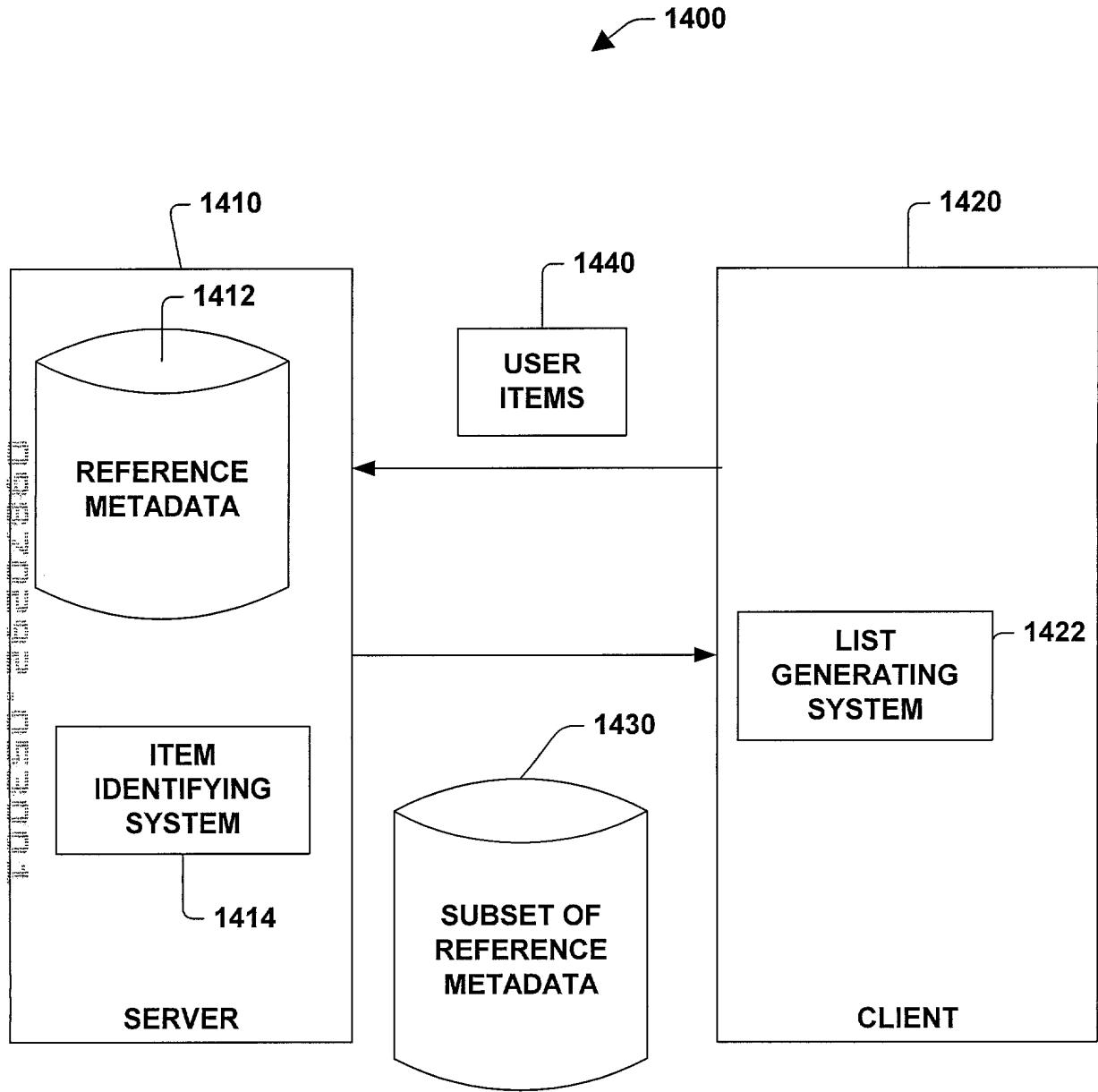


FIG. 14

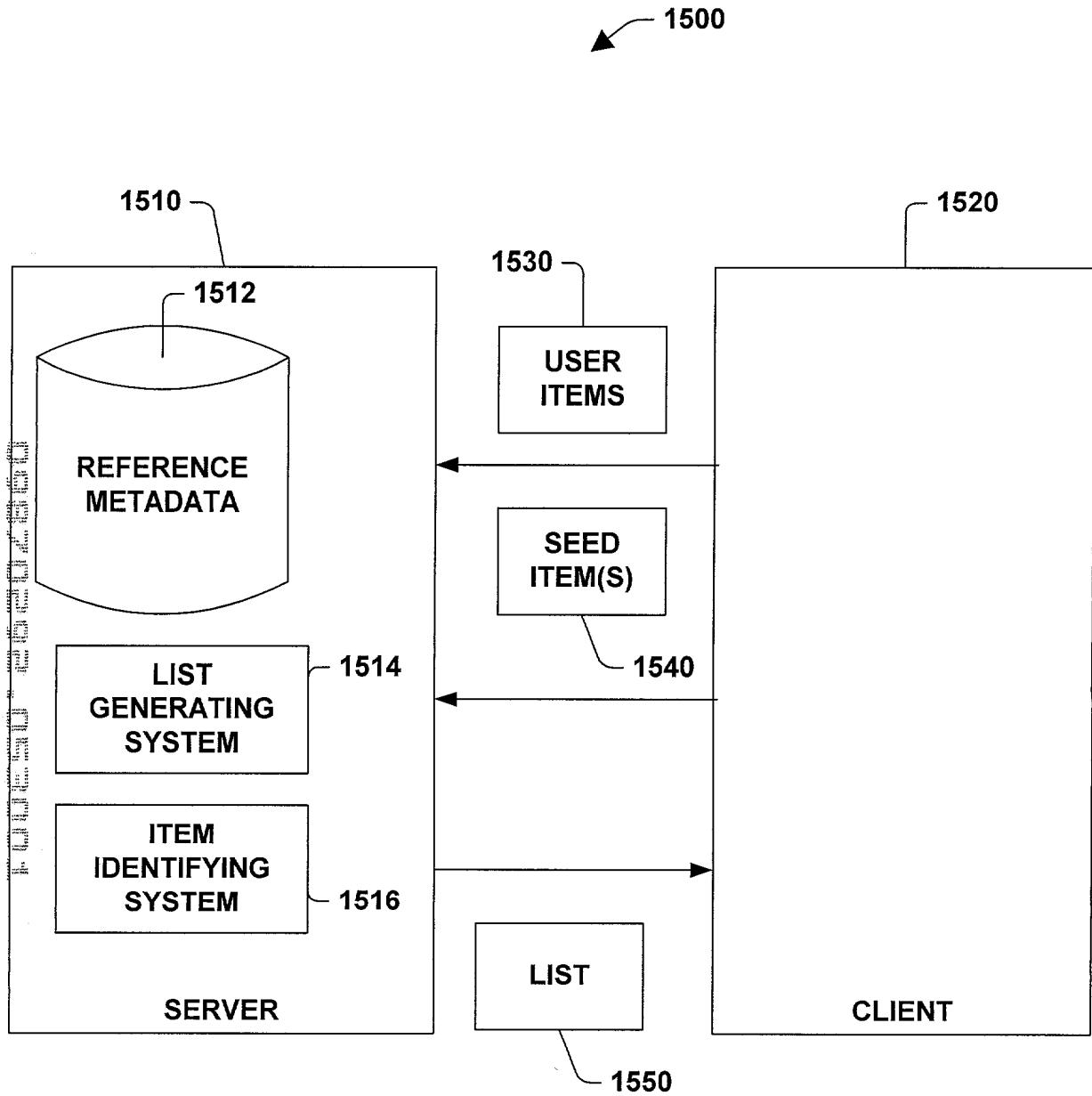


FIG. 15

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IF SEED SONG HAS TRACK ID THEN
    SEED LIST = SEED SONG
ELSE IF SEED SONG HAS ARTIST ID THEN
    SEED LIST = ALL USER SONGS WITH SAME ARTIST ID
ELSE
    FINAL LIST = ALL USER SONGS WITH SAME ARTIST NAME
        AS SEED SONG
    RETURN FINAL LIST
END IF

FOR EACH USER SONG WITH TRACK OR ARTIST ID

    IF USER SONG HAS TRACK ID THEN
        USER LIST = USER SONG
    ELSE IF USER SONG HAS ARTIST ID THEN
        CHECK CACHE FOR SIMILARITY OF SEED TO ARTIST ID

        IF SIMILARITY VALUE IS IN CACHE
            ADD USER SONG AND SIMILARITY TO FINAL LIST
            GO TO NEXT USER SONG
        END IF
        USER LIST = ALL USER SONGS WITH SAME ARTIST ID
    END IF

    COMPUTE LIMITS TO SIMILARITY COMPUTATION
    COMPUTE SIMILARITY OVER ALL POSSIBLE PAIRS OF SONGS
        ON SEED LIST AND USER LIST, SUBJECT TO LIMITS
    SIMILARITY VALUE = MEAN SIMILARITY OVER PAIRS

    IF USER SONG HAS NO TRACK ID
        STORE SIMILARITY IN CACHE
    END IF

    ADD USER SONG AND SIMILARITY TO FINAL LIST
END FOR

SORT FINAL LIST BE DECREASING SIMILARITY

RETURN FINAL LIST

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FIG. 16

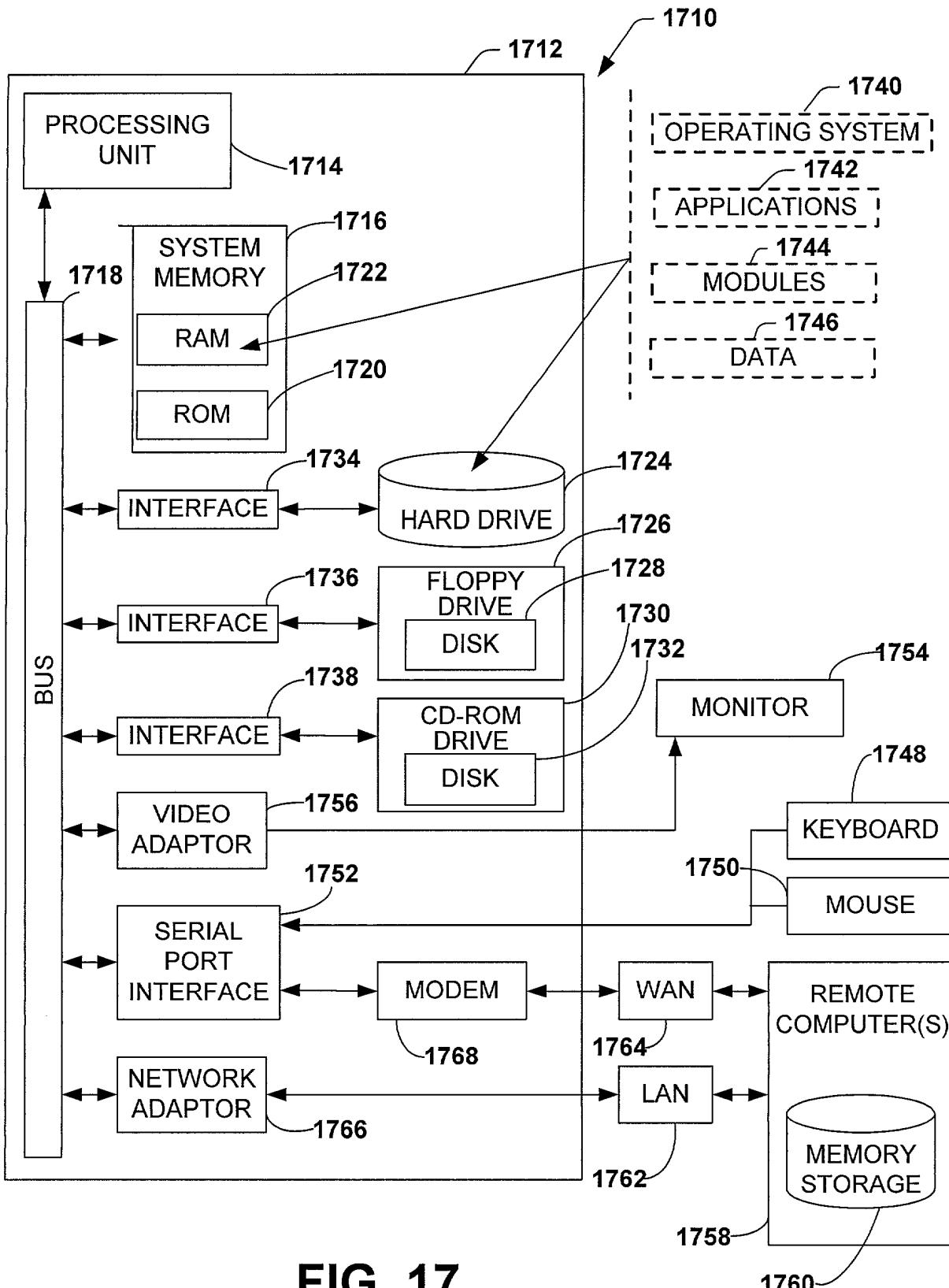


FIG. 17

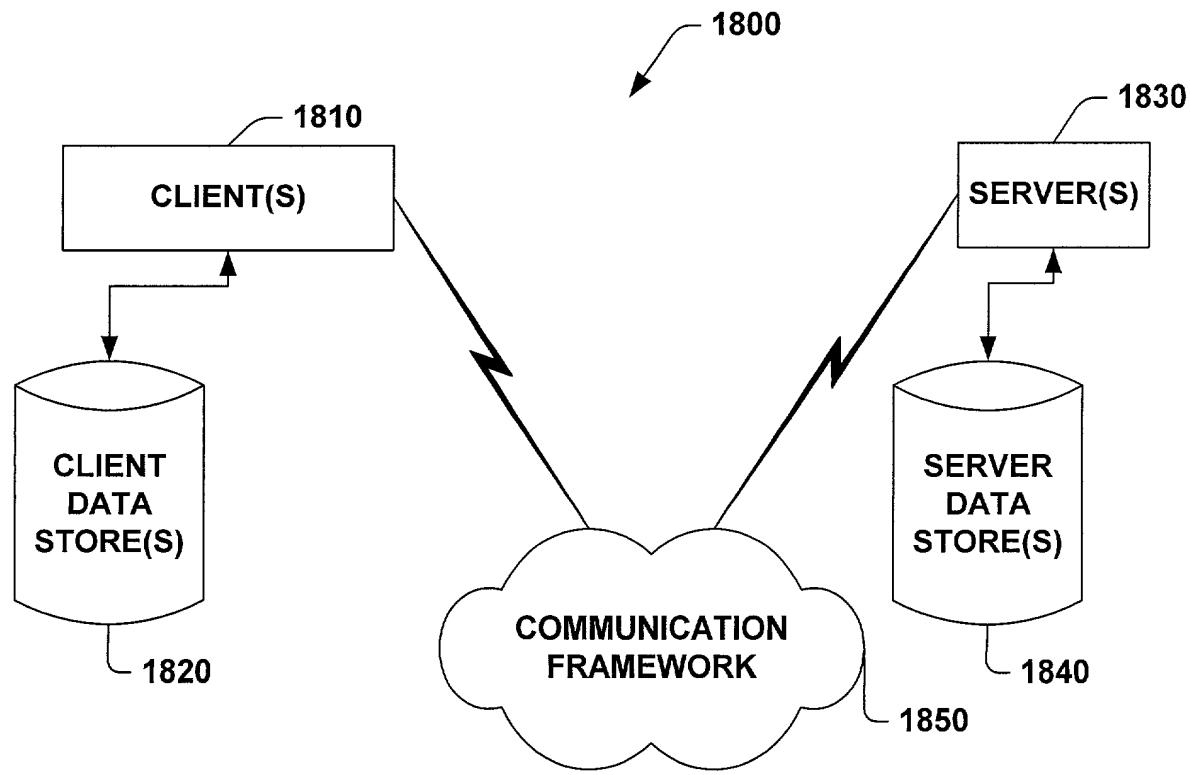


FIG. 18